



CRS Report for Congress

Military Base Closures: Role and Costs of Environmental Cleanup

David M. Bearden
Analyst in Environmental Policy
Resources, Science, and Industry Division

Summary

Near the end of its first session, the 109th Congress approved a new round of military base closures and realignments. As the Department of Defense (DOD) implements the new round, potential issues for the 110th Congress include the pace and costs of closing and realigning the bases and the impacts on surrounding communities. The disposal of surplus property has stimulated interest among affected communities in how the land can be redeveloped to replace lost jobs. Environmental contamination can present a challenge to economic redevelopment if funding or technological constraints would limit the degree of cleanup needed to make the land safe for its intended use. Most of the land on bases closed under prior rounds has been cleaned up and transferred for redevelopment. However, some bases have yet to be cleaned up to an extent adequate for the planned land use. Bases closed under the 2005 round could face similar redevelopment delays if a community's preferred land use requires a costly and time-consuming degree of cleanup. This report explains cleanup requirements for the transfer and reuse of properties on closed bases, discusses property transfer status and cleanup costs on bases closed in prior rounds, and examines estimates of costs to clean up bases to be closed in the 2005 round to make these properties safe for civilian reuse.

Introduction

Following the collapse of the former Soviet Union, Congress authorized four rounds of military base closings and realignments in 1988, 1991, 1993, and 1995. Although closure of installations under all four rounds is complete, environmental cleanup and economic redevelopment of some of these properties continue. The pace and cost of cleaning up environmental contamination on closed bases has been an ongoing issue because of concern about human health and environmental risks and the public's desire to redevelop these properties for civilian uses. The completion of cleanup is often a key factor in economic redevelopment, because the land cannot be used for its intended purpose until it is cleaned up to a degree that would be safe for reuse.

A new round of base closures and realignments has made communities concerned that the cleanup of environmental contamination may pose obstacles to redeveloping more

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 03 JAN 2007		2. REPORT TYPE		3. DATES COVERED 00-00-2007 to 00-00-2007	
4. TITLE AND SUBTITLE Military Base Closures: Role and Costs of Environmental Cleanup				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Congressional Research Service, The Library of Congress, 101 Independence Avenue SW, Washington, DC, 20540-7500				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 6	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

surplus military property for civilian reuse. The Base Realignment and Closure (BRAC) Commission submitted its report on the 2005 round to President Bush on September 8, 2005. This report lists the military installations that the Commission approved for closure or realignment and its reasons for altering DOD's recommendations.¹ The President notified Congress of his approval of the Commission's recommendations on September 15, 2005. Near the end of its first session, the 109th Congress approved the 2005 round, which must be completed within six years under federal statute. However, this time frame applies only to the closure or realignment of bases. The cleanup of contaminated surplus property to make the land suitable for civilian reuse could take significantly longer. Consequently, the cost and pace of long-term efforts to clean up these properties could be an issue not only in the 110th Congress, but in future Congresses as well.

Cleanup Requirements for Property Transfer and Reuse

Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly referred to as Superfund) generally requires the United States (in this case, DOD) to clean up closed bases prior to transfer out of federal ownership.² Property on a closed base is typically transferred to a local redevelopment authority (LRA) responsible for implementing a plan for civilian reuse. To speed redevelopment, CERCLA authorizes early transfer under certain conditions.³ Early transfer can be advantageous in terms of redevelopment, if the intended land use would not present the potential for harmful human exposure to contamination, and therefore not require cleanup. Conversely, redevelopment could be delayed despite early transfer if cleanup is necessary to make the intended land use safe.

Whether a property is transferred after cleanup or transferred early, the degree of cleanup varies from site to site, depending on the cleanup standard used and the remedy selected to attain it. Rather than specify standards for particular substances, CERCLA requires that cleanup comply with legally applicable, relevant, and appropriate requirements (ARARs) to protect human health and the environment, including a host of federal and state standards for various hazardous substances.⁴ Although CERCLA does not explicitly require the consideration of land use in determining the degree of cleanup, in practice, land use is a key factor in selecting a cleanup standard and remedy to attain it. Cleanup standards generally are stricter for land uses that would result in greater risk of human exposure to contamination. For example, cleanup is typically more stringent and more costly for land uses such as residential development, which could pose a higher risk of exposure to sensitive populations including children and the elderly. Cleanup is typically the least stringent and the least costly for industrial land uses, such as manufacturing, which could pose less risk of exposure.

The Environmental Protection Agency (EPA), or the state in which an installation is located, is responsible for determining whether the selected remedy would attain the

¹ The BRAC Commission's report is available online at [<http://www.brac.gov/finalreport.html>].

² 42 U.S.C. 9620(h).

³ 42 U.S.C. 9620(h)(3)(C).

⁴ 42 U.S.C. 9621(d).

cleanup standard for a specific site.⁵ EPA has issued non-binding guidance for considering the “reasonably anticipated land use” in selecting cleanup remedies.⁶ DOD and the community, usually through the LRA, are responsible for determining how the land will be reused, in negotiating the terms of the property transfer. However, the community’s ability to attain its preferred use is constrained, as the Defense Base Closure and Realignment Act does not require DOD to *dispose* of property on a closed base for a particular land use, nor within a certain time frame. Impediments to conveying the land for redevelopment may surface if DOD is resistant to transferring it for a purpose that the community desires, because of cost considerations or technological limitations affecting cleanup of the contamination. EPA’s guidance acknowledges that some land uses may not be practical due to such challenges, and indicates that the cleanup objective may need to be revised, which may result in “different, more reasonable land use(s).”⁷

In addition to land use, numerous other factors can determine the degree and cost of cleanup, raising further issues. For example, cleanup does not necessarily require the removal of contamination, if a safe method of containing it is available to prevent exposure. Although containment is typically less costly than removal, some of the savings of containment can be offset by the costs of maintaining the containment method over the long-term to ensure that it remains effective in preventing exposure. Tensions may arise between DOD and the community, if there is disagreement over the method selected to prevent exposure. Communities frequently prefer removal rather than containment, because of concerns about lingering risks and continuing costs if the method of containment were to fail over time. However, DOD may prefer containment to save costs, due to limited funding for the cleanup of many closed bases across the country.

Once DOD and the community agree on a land use, and a cleanup remedy is selected to make that land use safe, DOD generally administers and pays for the cleanup. However, the recipient of the property voluntarily can agree to accept responsibility for the cleanup, including the costs. In such cases, DOD typically sells the land at a discounted price to offset the cleanup costs borne by the purchaser. A discounted price may lower a purchaser’s initial costs to buy the land, but the purchaser does assume some financial risk if the cleanup costs are greater than expected. The cost of environmental insurance to assume this financial risk also may offset some of the initial savings gained from a discounted price.

If DOD takes responsibility for the cleanup, the Department remains obligated after cleanup is complete in the event that more contamination is found later that requires remediation. However, DOD is obligated for further cleanup only to the extent that the degree of contamination found later would exceed applicable standards for the land use originally agreed upon for the transfer. If a community decides to use the land for another purpose that would require further cleanup, DOD would not be responsible for paying for

⁵ EPA is required by statute to take the lead in overseeing cleanup at federal sites on the National Priorities List (NPL). States usually take the lead in overseeing cleanup at non-NPL sites.

⁶ EPA. Office of Solid Waste and Emergency Response. *Land Use in the CERCLA Remedy Selection Process*. OSWER Directive No. 9355.7-04. May 25, 1995.

⁷ *Ibid.*, p. 7.

it. In such cases, the additional costs of cleanup to make the land safe for a different purpose would be the responsibility of the property recipient.

Status of Property Transfer on Closed Bases

DOD is in the early stages of implementing the 2005 round and will transfer surplus property as bases are closed and the land is found to be environmentally suitable for transfer. Although DOD has transferred most of the land on bases closed in prior rounds for redevelopment, certain properties have yet to be transferred because cleanup is not complete, raising questions about the potential for similar delays in the 2005 round. The most recent comprehensive information on the status of property transfer on bases closed in prior rounds was released by the Government Accountability Office (GAO) in January 2005.⁸ At that time, GAO reported that 72% of the acreage on these closed bases had been transferred for reuse, as of the end of FY2003. Of the acreage awaiting transfer, 18% had been leased for reuse prior to the completion of cleanup. However, pending cleanup had delayed the permanent transfer of these properties, with reuse limited to purposes that would be safe relative to the degree of contamination and potential for human exposure. The remaining 10% had not been leased or transferred for reuse primarily because of cleanup challenges. Early in 2007, GAO expects to release more recent data on the status of cleanup on these properties and their transfer for reuse.

Cleanup Costs of Past Base Closure Rounds

DOD estimates that the closure of bases under the previous four rounds has resulted in an annual savings of \$7 billion in operational expenses. The costs of environmental cleanup have run into billions of dollars, discussed below, and have offset some of these savings gained from a reduced military infrastructure. However, a portion of the cleanup costs would have been incurred regardless, as DOD is required to clean up its operational installations at least to a degree that would be safe for military uses, somewhat reducing this offset. The incremental cost and time to clean up a closed base depends primarily on how extensive the cleanup must be to make the land safe for uses that would be less restrictive than military purposes, and pose a higher risk of human exposure. In March 2006, DOD reported that it had incurred nearly \$7 billion in cleanup costs through FY2005 at bases closed under the previous four rounds.⁹

Although most of the acreage on bases closed under past rounds has been cleaned up and transferred, estimates of costs to complete cleanup on lands awaiting transfer, and on those transferred early, remain substantial. In March 2006, DOD estimated that \$3.8 billion would be necessary to clean up known contamination from FY2006 to

⁸ Government Accountability Office, *Military Base Closures: Updated Status of Prior Base Realignments and Closures*, GAO-05-138, January 2005. 48 p.

⁹ Department of Defense, *Defense Environmental Programs Annual Report to Congress for FY2005*, March 2006, Appendix J, p. J-10-1. The nearly \$7 billion figure reflects the *actual* costs of the cleanup process and does not include other costs, such as program management and support. In January 2005, GAO reported \$8.3 billion in cleanup expenses at closed bases through the end of FY2003. This included funding *obligated* for cleanup, which would be paid at a later date upon completion of specific actions, in addition to actual costs incurred through this period and others costs such as program management and support.

completion.¹⁰ These costs could be higher, if new or more stringent regulations are issued that require a greater degree of cleanup than anticipated. Future costs also could be more than expected if currently unknown environmental threats, such as unexploded ordnance or additional hazardous substances, are discovered later. On the other hand, costs at some sites may prove lower if more cost-effective cleanup technologies become available.

Cleanup Costs and Related Issues for the 2005 Round

The amount of money and time required to clean up additional bases to be closed in the 2005 round will depend on the type and extent of contamination present on those properties, and the actions that will be necessary to make the land safe for reuse. Cleanup can take many years, as the continuing cleanup of certain bases closed between 1988 and 1995 demonstrates. As in prior rounds, availability of funding and capabilities of cleanup technologies could limit the degree of cleanup on bases closed in the 2005 round, making certain land uses infeasible and posing challenges to economic redevelopment.

As indicated in the following table, DOD estimated in March 2006 that nearly \$500 million would be needed to complete cleanup at the 22 “major” installations to be closed in the 2005 round. Nearly all of this cost is for the cleanup of military munitions on training ranges, including the removal of unexploded ordnance. Significant funding for cleanup also may be necessary at minor installations that are closed, as well as on realigned installations if the change in mission will result in the disposal of contaminated land that is no longer needed for military purposes. DOD expects to release more recent estimates of cleanup costs for these bases in the spring of 2007.

Whether DOD’s estimates are a reasonable approximation of what the actual cleanup costs might be has been the topic of much debate. Because the civilian uses of bases to be closed in the 2005 round have yet to be finalized, DOD’s above cost estimate is based on a degree of cleanup that would be safe relative to the recent military land use. If a property were to be used for a purpose that is less restrictive than military use, and would result in a higher risk of exposure to contamination, a greater degree of cleanup likely would be required to make the land safe for that use. In such circumstances, more funding and time could be needed to complete cleanup than DOD has estimated.

In deliberations over the 2005 round, some Members of Congress and the BRAC Commission expressed concern that DOD’s estimates could be undervalued because they do not reflect the possible land uses and the corresponding degree of cleanup that may be necessary to redevelop these bases. Further, some state environmental agencies assert that DOD’s estimates are based on less stringent cleanup actions that the Department prefers, rather than on more extensive and costlier actions that states could require. Accordingly, communities have questioned whether more funding and time may be needed than DOD has estimated to clean up these bases to make them safe for reuse. Potentially higher cleanup costs also could affect purchasers of surplus military property who may accept financial responsibility for cleanup in exchange for a discounted price for the land. Higher cleanup costs also could have an impact on insurers of such properties.

¹⁰ Department of Defense, *Defense Environmental Programs Annual Report to Congress for FY2005*, March 2006, Appendix J, p. J-10-1.

Major Base Closures in the 2005 BRAC Round: Past and Estimated Future Cleanup Costs, as of March 2006

(in thousands of dollars)

Installation	State	Past Cleanup Costs Incurred through FY2005			Future Estimates of Cleanup Costs from FY2006 through Site Completion		
		IRP ^a	MMRP ^a	Total	IRP ^a	MMRP ^a	Total
Kulis Air Guard Station ^b	Alaska	\$0	\$0	\$0	\$0	\$0	\$0
Onizuka Air Force Station ^c	California	\$139	\$0	\$139	\$0	\$0	\$0
Riverbank Army Ammunition Plant	California	\$54,627	\$34	\$54,661	\$3,482	\$1,209	\$4,691
Atlanta Naval Air Station	Georgia	\$1,473	\$0	\$1,473	\$2,735	\$0	\$2,735
Fort Gillem	Georgia	\$32,053	\$0	\$32,053	\$10,204	\$0	\$10,204
Fort McPherson	Georgia	\$7,865	\$235	\$8,100	\$40	\$7,221	\$7,261
Newport Chemical Depot	Indiana	\$19,538	\$37	\$19,575	\$1,537	\$3,286	\$4,823
Kansas Army Ammunition Plant	Kansas	\$33,545	\$81	\$33,626	\$22,617	\$95	\$22,712
Selfridge Army Activity	Michigan	\$17	\$80	\$97	\$0	\$13,202	\$13,202
Brunswick Naval Air Station	Maine	\$64,147	\$52	\$64,199	\$10,056	\$5,592	\$15,648
Mississippi Army Ammunition Plant	Mississippi	\$0	\$0	\$0	\$0	\$8,413	\$8,413
Pascagoula Naval Station ^b	Mississippi	\$0	\$0	\$0	\$0	\$0	\$0
Fort Monmouth	New Jersey	\$25,376	\$181	\$25,557	\$3,474	\$1,198	\$4,672
Cannon Air Force Base	New Mexico	\$11,603	\$0	\$11,603	\$2,138	\$0	\$2,138
Umatilla Chemical Depot	Oregon	\$54,047	\$140	\$54,187	\$7,581	\$1,151	\$8,732
Willow Grove Naval Air Station	Pennsylvania	\$7,777	\$0	\$7,777	\$6,049	\$0	\$6,049
Brooks City Base	Texas	\$7,449	\$0	\$7,449	\$3,351	\$0	\$3,351
Ingleside Naval Station ^b	Texas	\$0	\$0	\$0	\$0	\$0	\$0
Lone Star Army Ammunition Plant	Texas	\$26,214	\$0	\$26,214	\$1,043	\$0	\$1,043
Deseret Chemical Depot	Utah	\$21,937	\$275	\$22,212	\$7,755	\$170,125	\$177,880
Fort Monroe	Virginia	\$1,830	\$169	\$1,999	\$0	\$200,758	\$200,758
General Mitchell Air Reserve Station ^{b, d}	Wisconsin	\$0	\$0	\$0	\$0	\$0	\$0
Total 2005 BRAC Round		\$369,637	\$1,284	\$370,921	\$82,062	\$412,250	\$494,312

Source: Prepared by the Congressional Research Service using information from the Department of Defense: *Defense Environmental Programs Annual Report to Congress for FY2005*, March 2006, Appendix J, various pages. The amounts in this report indicate costs for actions *directly* related to cleanup and do not include indirect costs such as program management and support.

a. IRP = Installation Restoration Program, under which the cleanup of non-munitions contamination is addressed. MMRP = Military Munitions Response Program, under which the cleanup of munitions is addressed, including the removal of unexploded ordnance (UXO).

b. DOD did not indicate any cleanup costs that had been incurred in the past, or estimated for the future, at these sites.

c. DOD indicated that the cleanup it had planned was complete. Further financial liability would depend on the adequacy of the cleanup to continue to protect human health and the environment.

d. DOD reported that the cleanup it had planned was complete at General Mitchell Air Force Base, but did not indicate any cleanup costs at General Mitchell Air Reserve Station specifically.